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CLEVELAND, OH 44143

EXAMINER

BROOME, SAID A

ART UNIT PAPER NUMBER

2628

DATE MAILED: 07/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/509,644

Applicant(s)

LOBREGT, STEVEN

Examiner

Said Broome

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. This office action is in response to an amendment filed on 4/20/2006.
2. Claims 1-6, 8-13 and 15 have been amended by the applicant.
3. Claim 7 has been cancelled by the applicant.
4. Claim 14 is original.
5. Claims 16-20 have been added by the applicant.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 3, 5, 13-15 and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu (US Patent 5,953,013) in view of Kaji (US Patent 6,501,468).

Regarding claim 1, Shimizu teaches all the limitations except that the first and second view points each have view directions that are essentially parallel to each other. Shimizu teaches a method of visualizing an internal hollow organ of a subject based on a volumetric scan in column 11 lines 30-31, where it is described that volume rendering is used to visualize the three dimensional image, as also described in column 12 lines 20-22 ("...a three-dimensional image is constructed as if the inside of the subject was observed under an endoscope."). Shimizu also teaches reconstructing a number of three-dimensional images of the internal surface of the

hollow organ in column 12 lines 23-26 (“...volume rendering method, a three-dimensional image is obtained as if the inside of the subject was observed while an endoscope was moved...”.) and column 5 lines 66-67-column 6 lines 1-7 (“...an X-ray CT apparatus but it can measure a plurality of sliced images three-dimensionally. Accordingly, an image constructed by two-dimensional images arranged three-dimensionally can be obtained by the MRI apparatus. This image is called “volume image”. This volume image (three-dimensionally arranged image) can be decomposed into two-dimensionally arranged images (slice arrangement).”). Shimizu also teaches calculating an image for the left eye from a first view point and an image for the right eye from a second view point that differs from the first view point in column 13 lines 7-15 (“...the first image obtained from the left eye's view point and the second image obtained from the right eye's view point are seen by the left and right eyes individually...”). Shimizu also teaches combining the left eye image and the right eye image into a pair to form a stereoscopic image in column 13 lines 42-46, where it is described that the constructed stereoscopic image is generated from the simultaneous viewing of the left and right images, as shown in Figure 11. Shimizu also teaches showing the stereoscopic image using stereoscopic imager means in column 13 lines 42-46 and is illustrated in Figure 12 as element 25. Again, Shimizu fails to teach the first and second view points each have view directions that are essentially parallel to each other. Kaji teaches that the first and second view points each have view directions that are essentially parallel to each other in column 3 lines 63-64 (“...the line of sight 31 of the left eye and the line of sight 33 of the right eye are in parallel...”), and as shown in Figure 6. It would have been obvious to one of ordinary skill in the art to combine the teachings of Shimizu with Kaji because this combination would provide a stereoscopic view environment in which three

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dimensional images are displayed using a display device, such as a head mounted display device known in the art.

Regarding claim 2, Shimizu teaches defining a view path through the hollow organ in column 17 lines 17-21 (“...a three-dimensional original image having a pipe path (such as an intestine or a trachea) formed in the direction of the depth thereof is to be inspected as if the deep side of the pipe path thereof was observed under an endoscope...”). Shimizu also teaches reconstructing the images as seen from view points lying on the view path in column 17 lines 23-27 (“In order to track the image in the direction of the depth thereof, the view point, the view line direction and the projection plane are updated...”), where it is described that as the view points change along the view path, as illustrated in Figure 16, are updated in response to those changes and the three dimensional images are updated or reconstructed as a result of those updates, as described in column 20 lines 31-33 (“Whenever updating is performed, a three-dimensional image is obtained and displayed on the display screen.”). Shimizu also teaches one of the first and second view points lie on the view path in column 17 lines 18-26 (“...in order to track the image in the direction of the depth thereof, the view point, the view line direction and the projection plane are updated in combination.”), and in column 13 lines 18-22 (“...the two view points are moved so as to be interlocked with each other so that the projection plane is updated on the assumption that one view point is located in the middle between the two view points.”), where it is described that the view point lies on the view path, as shown in Figure 16, therefore one of the first and second view points are present on the view path.

Regarding claim 3, Shimizu teaches defining a view path through the hollow organ in column 17 lines 17-21 (“...a three-dimensional original image having a pipe path (such as an

intestine or a trachea) formed in the direction of the depth thereof is to be inspected as if the deep side of the pipe path thereof was observed under an endoscope... “). Shimizu also teaches reconstructing the images as seen from view points lying on the view path in column 17 lines 23-27 (“In order to track the image in the direction of the depth thereof, the view point, the view line direction and the projection plane are updated...”), where it is described that as the view points change along the view path, as illustrated in Figure 16, updates are performed in response to those changes and the three dimensional images are updated or reconstructed as a result of those updates, as described in column 20 lines 31-33 (“Whenever updating is performed, a three-dimensional image is obtained and displayed on the display screen.”). Shimizu also teaches that both the first and second view point lie on the view path in column 13 lines 18-22 (“...the two view points are moved so as to be interlocked with each other so that the projection plane is updated on the assumption that one view point is located in the middle between the two view points.”), where it is described that the view points lie on the view path moving in a certain view line direction.

Regarding claim 5, Shimizu teaches all the limitations except that the first and second lines extend essentially parallel to the view path at a certain mutual distance. Shimizu teaches defining a view path through the hollow organ in column 17 lines 17-21 (“...a three-dimensional original image having a pipe path (such as an intestine or a trachea) formed in the direction of the depth thereof is to be inspected as if the deep side of the pipe path thereof was observed under an endoscope... “). Again, Shimizu fails to teach the first and second lines extend essentially parallel to the view path at a certain mutual distance. Kaji teaches that the first and second view lines are parallel to a center line or view path in column 3 lines 63-64 (“...the line of sight 31 of

the left eye and the line of sight 33 of the right eye are in parallel...”), and the view lines are shown at a mutual distance in Figure 6. The motivation to combine the teachings of Shimizu and Kaji is equivalent to the motivation of claim 1.

Regarding claim 13, Shimizu teaches all the limitations except that the first and second view points each have view directions that are essentially parallel to each other. Shimizu teaches a system for visualizing an internal hollow organ of a subject based on a volumetric scan in column 11 lines 25-27, where it is described that a system, as illustrated in Figure 12, is used to visualize an internal hollow organ as described in column 12 lines 20-22 (“...a three-dimensional image is constructed as if the inside of the subject was observed under an endoscope.”). Shimizu also teaches reconstructing a number of three-dimensional images of the internal surface of the hollow organ in column 12 lines 23-26 (“...volume rendering method), a three-dimensional image is obtained as if the inside of the subject was observed while an endoscope was moved...”). Shimizu teaches calculating an image for the left eye from a first view point have a first direction in column 13 lines 7-15 (“...if two view points (left eye's view point and right eye's view point)...are set in advance to construct two-in-a-set projection images (three-dimensional images) individually in the same direction...the first image obtained from the left eye's view point...are seen by the left and right eyes individually...”). Shimizu also teaches calculating an image for the left eye from a first view point and an image for the right eye from a second view point that differs from the first view point in column 13 lines 7-15 (“...the first image obtained from the left eye's view point and the second image obtained from the right eye's view point are seen by the left and right eyes individually...”). Shimizu also teaches combining the left eye image and the right eye image into a pair to form a stereoscopic image in column 13

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lines 42-46, where it is described that the constructed stereoscopic image is generated from the simultaneous viewing of the left and right images, as shown in Figure 11. Shimizu also teaches showing the stereoscopic image using stereoscopic imager means in column 13 lines 42-46 and is illustrated in Figure 12 as element 25. Again, Shimizu fails to teach the first and second view points each have view directions that are essentially parallel to each other. Kaji teaches that the first and second view points each have view directions that are essentially parallel to each other in column 3 lines 63-64 (“...the line of sight 31 of the left eye and the line of sight 33 of the right eye are in parallel...”), and as shown in Figure 6. It would have been obvious to one of ordinary skill in the art to combine the teachings of Shimizu with Kaji because this combination would provide a stereoscopic view environment in which three dimensional images are displayed in parallel view directions for respective left and right eye images, using a display device, such as a head mounted display device known in the art.

Regarding claim 14, Shimizu teaches a computer readable media, as illustrated in Figure 12 as element 9, that comprises a program to carry out the method of claim 1 as described in column 12 lines 46-50 (“...constructs a three-dimensional image by using the main memory 9 as if the inside of the subject was observed under an endoscope, and feeds the resulting three-dimensional image to the display...” and column 17 lines 45-47 (“FIG. 17C shows a program procedure for obtaining a unit three-dimensional image and a three-dimensional image. FIG. 17B shows a shared memory 28 for relaying processing of the programs shown in FIGS. 17A and 17C. The shared memory 28 is included in the main memory 9.”).

Regarding claim 15, Shimizu teaches the viewing means incorporated in a head-mountable display in column 13 lines 37-38 and is also illustrated in Figure 12 as element 25.

Regarding claim 17, Shimizu also teaches one of the first and second view points lie on the view path in column 17 lines 18-26 (“...in order to track the image in the direction of the depth thereof, the view point, the view line direction and the projection plane are updated in combination.”), and in column 13 lines 18-22 (“...the two view points are moved so as to be interlocked with each other so that the projection plane is updated on the assumption that one view point is located in the middle between the two view points.”), where it is described that the view point lies on the view path, as shown in Figure 16, therefore one of the first and second view points are present on the view path.

Regarding claim 18, Shimizu teaches that both the first and second view point lie on the view path in column 4 lines 20-27 (“...a unit three-dimensional image interposed between the view point and the projection plane is projected onto the projection plane from the position of the view point and the view line direction by central projection. As a result, the view point can be moved in the direction of the depth of the three-dimensional original image, so that the inner wall of the subject such as an intestine, or the like, can be seen as if it was observed under a moving endoscope.”) and in column 13 lines 7-15 (“...(three-dimensional images) individually in the same direction of turning of eyes so that the first image obtained from the left eye's view point and the second image obtained from the right eye's view point are seen by the left and right eyes individually, the three-dimensional images after construction can be observed stereoscopically.”).

Regarding claim 19, Shimizu teaches all the limitations except that the first and second view points extend essentially parallel to each other. Kaji teaches that for each image the first view point resides on a first view line and the second view point resides on a second view line

and the first and second view lines extend essentially parallel to each other in column 3 lines 63-64 (“...the line of sight 31 of the left eye and the line of sight 33 of the right eye are in parallel...”), and as shown in Figure 6. The motivation to combine the teachings of Shimizu and Kaji is equivalent to the motivation of claim 13.

Regarding claim 20, Shimizu teaches that the view path is positioned between the first and second view lines in column 13 lines 18-22 (“...the two view points are moved so as to be interlocked with each other...one view point is located in the middle between the two view points.”). However, Shimizu fails to teach first and second view lines that extend essentially parallel to that view path. Kaji teaches that the first and second view lines are parallel to a center line or view path in column 3 lines 63-64 (“...the line of sight 31 of the left eye and the line of sight 33 of the right eye are in parallel...”), and as shown in Figure 6 as element 37. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Shimizu with Kaji because this combination would provide first and second view lines for the left and right eyes respectively, that extend parallel to a view path.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu in view of Kaji and in further view of Lorensen et al. (US Patent 5,611,025).

Regarding claim 4, Shimizu and Kaji fail to teach view points on the view path are alternatively used as first or second view point. Lorensen et al. teaches selecting any viewpoint in column 4 lines 14-15 (“...an operator controls the image viewpoint with a graphical interface...”), therefore the user would be capable of alternatively selecting any viewpoint, including a first or second viewpoint of the left or right eyes respectively that are described to be provided by the renderer in column 5 lines 30-34 (“Stereoscopic viewing may be used...requires two separate images to be provided to operator 5: one corresponding to the left eye view and one correspond- ding to the right eye view.”). It would have been obvious to one of ordinary skill in the art to combine the teachings of Shimizu, Kaji and Lorensen et al. because this combination would provide a stereoscopic image display device that enables the user to interactively choose either a first or second viewpoint while traversing the view path.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu in view of Kaji in further view of Orgino (US Patent 6,762,794).

Regarding claim 6, Shimizu and Kaji fail to teach the distance between the first and second viewpoint is essentially one or more millimeters. Orgino teaches a distance between the first and second viewpoints, which is known in the art to be the inter pupillary distance, is one or more millimeters in column 8 lines 19-29 (“A range within which humans can fuse left and right parallax images presented on display screens as a stereoscopic image...The image-fusible range depends on the characteristics of the human eyes. Considering that the inter-pupillary distance of

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the human is about 65 mm wide...”), and is illustrated in Figure 2 as element 2d_h. It would have been obvious to one of ordinary skill in the art to combine the teachings of Shimizu, Kaji and Orgino because this combination would provide the accurate distance between the viewpoint of each eye, to be measured in millimeters, which is a common unit of measure for inter pupillary distance, as known in the art.

Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu in view of Kaji in further view of Palm (US Patent 5,748,199).

Regarding claim 8, Shimizu and Kaji fail to teach the limitations. Palm teaches showing the left and right eye image forming a stereoscopic image with different modification in column 12 lines 61-67 (“true 3-dimensional stereo presentations to a user are becoming less expensive and are being readily adopted...With respect to imaging, some of these utilize field sequential technology with polarizing glasses.”), where it is described that the stereoscopic image is shown with a different modification such as a polarized image. Palm also teaches arranging the stereoscopic imager means such that the left eye image is passed to the left eye and the right eye image is passed to the right eye in column 12 line 67-column 13 line 1 (“One field of an image is transmitted for the left eye followed by one transmitted for the right eye.”). It would have been obvious to one of ordinary skill in the art to combine the teachings of Shimizu, Kaji and Palm because this combination would provide an alternate stereoscopic viewing option for the user, which enhances the three-dimensional viewing experience.

Regarding claim 9, Shimizu and Kaji fail to teach the limitations. Palm teaches alternately showing the left and right eye image of a stereoscopic image with different

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polarization in column 13 lines 1-6 ("Polarization of each field is oriented to be orthogonal with the other field so that polarized glasses will allow one frame through the left eye piece and one through the right eye piece by switching the polarization to either block or admit light from a field being produced."), which provides view means for respectively the left and right eye. The motivation to combine the teachings of Shimizu, Kaji and Palm is equivalent to the motivation of claim 8.

Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu in view of Kaji in further view of Palm, and in further view of Chiu (US Patent 5,606,348).

Regarding claim 10, Shimizu, Kaji and Palm fail to teach the limitations. Chiu teaches showing the left and right eye image of a stereoscopic image with different time multiplexation in column 2 lines 10-15 ("In a time multiplex method, the image data are presented to the display at different time intervals (i.e. displaying the right eye data at time $t_{sub.0}$, followed by the left eye data at time t_1 , followed by right eye data at time t_2 ."). Chiu also teaches providing the stereoscopic imager means with different viewing means for the left and right eye that are to be activated separately by a control unit based on corresponding time-multiplexation signals in column lines ("The spatial multiplex method involves presenting the perspective image data at different areas on the screen (i.e. right eye image data on odd columns and left eye image data on even columns on the display; or alternate rows can be used)... This can be accomplished in a time-multiplex or spatial-multiplex fashion. Because of the wide variety of methods used in 3D display systems, each 3D system requires a unique driver controller to present the stereo image

data to the display..."). It would have been obvious to one of ordinary skill in the art to combine the teachings of Shimizu, Kaji, Palm and Chiu because this combination would provide an alternate stereoscopic viewing option for the user, which enhances the three-dimensional viewing experience.

Regarding claim 11, Shimizu teaches the viewing means incorporated in a head-mountable display in column 13 lines 37-38 and is also illustrated in Figure 12 as element 25.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu in view of Kaji in further view of Chiu (US Patent 5,606,348).

Regarding claim 12, Shimizu and Kaji fail to teach the limitations. Chiu teaches the stereoscopic imager means comprising a lenticular screen in column 2 lines 17-23 ("...presenting the perspective image data at different areas on the screen ...In this method, lenticular lens or micro-polarizer filters are the most common devices to use to direct the images to the eyes."), where it is described that the display screen used to present the images to the eyes utilizes a lenticular lens, therefore the display screen is a lenticular screen because it comprises lenticular lenses. It would have been obvious to one of ordinary skill in the art to combine the teachings of Shimizu, Kaji and Chiu because this combination would provide precise stereoscopic three dimensional viewing.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu in view of Kaji in further view of Holbrook ("Three-Dimensional Stereographic Visual Displays Marketing and Consumer Research").

Regarding claim 16, Shimizu and Kaji fail to teach the limitations. Bourke teaches a distance between a first and second view point is about 1/30 of a distance from the first and second view points to a surface within the internal hollow organ on page 4 in the Stereo Pairs section second paragraph lines 1-3 ("One common distance between the two photographic exposures mimics the human eyes by being spread about...the optimum ratio for a convincing 3-D effect is about 1:30 for the separation between exposures as a fraction of the distance to the nearest object."). It would have been obvious to one of ordinary skill in the art to combine the teachings of Shimizu, Kaji and Holbrook because this combination would provide accurate perception of depth through the display of images for left and right eyes from a certain distance.

Response to Arguments

Applicant's arguments with respect to claims 1-15 have been considered but are moot in view of the new ground(s) of rejection.

The applicant argues that the reference Shimizu (US Patent 5,953,013) used in the 35 U.S.C. 103(a) rejection of claims 1 and 13 does not teach first and second view points that each have view directions that are essentially parallel to each other. The examiner maintains the rejection because the reference, Kaji (US Patent 6,501,468), used in the rejection of claims 1 and 13 teaches a first view point for the left eye, and a second view point for the right eye, in which their view directions are parallel, as described in column 3 lines 63-64 ("...the line of sight 31 of the left eye and the line of sight 33 of the right eye are in parallel..."), and as shown in Figure 6.

The applicant also argues that the reference Lorenson et al. (US Patent 5,611,025) used in the 35 U.S.C. 103(a) rejection of claim 2 does not teach one of the first and second view point lies on the view path. The examiner maintains the rejection because Shimizu was shown to teach the limitations. Shimizu teaches defining one view point on a view path through the hollow organ in column 17 lines 17-21 (“...a three-dimensional original image having a pipe path (such as an intestine or a trachea) formed in the direction of the depth...”), in column 17 lines 18-26 (“...in order to track the image in the direction of the depth thereof, the view point, the view line direction and the projection plane are updated in combination.”), and in column 13 lines 18-22 (“...the two view points are moved so as to be interlocked with each other so that the projection plane is updated on the assumption that one view point is located in the middle between the two view points.”), as illustrated in Figure 16, therefore one of the first and second view points are present on the view path.

The applicant also argues that the references Shimizu and Palm used in the 35 U.S.C. 103(a) rejection of claims 8 and 9 do not provide a motivation to combine the teachings of the references. The examiner maintains the rejection because it would have been obvious to one of ordinary skill in the art to combine Shimizu and Palm because modifying the three dimensional stereoscopic imaging taught by Shimizu in column 13 lines 13-15 (“...the three-dimensional images after construction can be observed stereoscopically.”), with the polarizing capabilities as taught by Palm in column 13 lines 45-48 (“The two views of the wireframe constitute a stereo pair which can be viewed using virtual reality viewers such as a helmet with separate displays for each eye.”) and in column 12 lines 61-67 (“...true 3-dimensional stereo presentations to a user are becoming less expensive and are being readily adopted... With respect to imaging,

some of these utilize field sequential technology with polarizing glasses.”), would provide a three dimensional stereoscopic image display device capable of displaying different polarized views to each respective eye. Therefore have been obvious to one of ordinary skill in the art to combine the teachings of Shimizu and Palm because this combination provides polarized images displayed to the left and right eyes from a stereoscopic imaging device.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Said Broome whose telephone number is (571)272-2931. The examiner can normally be reached on 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ulka Chauhan can be reached on (571)272-7782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

S. Broome
7/7/06 SB


ULKA CHAUHAN
SUPERVISORY PATENT EXAMINER